mine the user's positional coordinates in real-time, or a PCM CIA Type II or Type III modem interface which can be miniaturized to credit card size. Alternatively, the user can specify his position coordinates and transmit that information to the database **12***e*. In this illustrated embodiment, the system **118** continually redefines the geo-definition of the geographic vicinity based upon the positional coordinates of the user. Data is assembled and maintained using the positional coordinates to generate a map of the geographic vicinity relative to the user and including the locations of the items of interest. As above, this geographic vicinity is assumed to be within a walking distance of the user; however, the user can select a greater radius for display, or another destination location, as needed.

The invention generally incorporates software to facilitate the several embodiments described herein and to support the principles of the invention. As known to those in the art, the data within the database can be maintained, for example, on a SQL-server, or in xBASE. The software is preferably portable to other operating systems, such as to Apple, Apple/IBM, Unix, DEC, OS/2, DOS, Windows 3.1, Windows '95; and preferably allows scalability to 64-bit architectures and greater, as technology advances.

In accord with the invention, software code supporting the database interaction with the remote port can include object-oriented programming, Visual Basic, and other software architectures configured to allow user interaction, portability to other platforms, interface with the internet or other gateways, and relational management.

FIG. **9** illustrates one embodiment of database architecture **130** which is suitable for use as the database **12** of FIG. **1**. Specifically, the architecture **130** includes separate phone and fax interfaces, **131**, **132**, respectively, to interface with any one of the remote ports, e.g., the port **16** of FIG. **1**. FIG. **10** illustrates system architecture including database architecture **140** and remote port architecture **141** connected via a pair of phone lines **142**, **143** to, respectively, a touch-tone phone **142***a* and fax machine **143***a*. In this manner, a user **144** can make requests and listen to responses on the phone **142***a*, and receive maps and instructions via the fax machine **143***a*.

Other modules within the database architectures **130** and/or **140** include the following:

- Communications managers **133**, **133'** (FIGS. **9** and **10**, respectively) handle all data transfers for a single internal modem (or telephone interface controller) **131** in the host database, e.g., a personal computer. It responds to remote requests for data by passing the requests to a session manager **138**, and handles all modem control issues, such as answering incoming calls. The communications manager **133'** of FIG. **10** is configured to service users who access the database from a remote port comprising a dial-up telephone **142***a*. As such, the manager **133'** translates touch-tone inputs into data and fax transmission requests to be sent to the session manager **138**, and monitors the line **142** for time-outs when a user **144** forgets to actively disconnect. The manager **133'** can also translate data from the session manager **138** into synthesized voice output for presentation to an end user **144**.
- The fax manager **134** handles all requests from the session manager **138** to fax and receive documents to and from end users connected through a communications link.
- Because there generally are a plurality of remote ports arranged for access to the system database, there are preferably a plurality of communications managers **133** and modems **131** to service requests from the remote ports. Likewise, although the database generally includes one fax manager **134** and one interface **132**, a plurality of fax managers **134** and fax machine interfaces **132** can be incorporated therein. Accordingly, the host database can answer and service a variety of remote ports simultaneously.
- The session manager **138** tracks and controls information for each active session being hosted by the database architecture. It responds to requests for data passed to it by each communications manager **133** operating in the database architecture, and prioritizes, queues, and forwards these data requests to the end user data server **136**. The manager **138** also forwards data requests to the system data server **137** (FIG. **9** only) to log certain system information, such as user connection times, errors, system utilization, and other administrative functions.
- In FIGS. **9** and **10**, database storage memory **139** stores information which is accessible by the end user data server **136** and which is responsive to user requests, including the selected city, locations of items of interest, maps of geographic vacinities, and advertising information. In FIG. **10**, an additional database storage memory **139***a* stores information which is accessible by the system data server **137** and which stores information such as system usage and transaction logging.
- The end user data server **136** responds to requests from the session manager **138** by providing data that has been requested for transmission to the remote port. This data includes that information required to place items of interest on the selected geographic vicinity. Preferably, the end user data server **136** is the only mode of access to the specific map data, and thus all requests for this data are made through this server.
- In FIG. **9**, the system data server **137** interacts with the session manager **138** to record system administrative data. The server **137** responds to requests from the session manager **138** to provide or record information used to track system usage, system response times, user preferences, and other data items that are used to optimize the different modules within the architecture **130**.

The flow and control of information by the information controller **14**, FIG. **1**, can include several of the functions shown illustratively in FIG. **11**. Specifically, a display manager **150** controls the drawing of maps (i.e., geographic vacinities) on the screen **22** and further controls status messages to a user of the system. The manager **150** responds to requests for screen updates and status message display from a system kernel module **159**, described in more detail below. It also sends requests to a map manager **151** when rendering maps to the display, and sends requests to a data manager **152** in order to obtain system information required to update the display **22** or to present status messages to the user.

A map manager **151** manages map data and provides data for drawing maps to the display manager **150**. The manager **151** responds to requests from the display manager **150** by providing information appropriate to the current context of the session, such as the graphical image (e.g., the geographic vicinity and advertising information) that needs to be displayed, the locations on the screen **22** of the items of interest, and the location and content of the rifles of the items of interest.

A data manager **152** handles all data requests from the system kernel module **159**, map manager **151**, and print